parative anatomy and pathology we desire to express our unbounded admiration. We seem, however, to read between the lines that were his knowledge combined with a large clinical experience, a different, or rather a much broader, interpretation might be given to certain phenomena which he has described from his restricted point of view. Nevertheless, there is so much that is new and novel in the book that, after a careful examination, the reviewer still feels that it is a work of the greatest importance, and should be in the hands of every student of the subject.

R. P.

THE ANATOMY OF THE HUMAN PERITONEUM AND ABDOMINAL CAVITY. Considered from the Standpoint of Development and Comparative Anatomy. By GEORGE S. HUNTINGTON, M.A., M.D., Professor of Anatomy, College of Physicians and Surgeons, Columbia University, New York City. Illustrated with 300 full-page plates, containing 582 figures, many in colors. Philadelphia and New York: Lea Brothers & Co., 1903.

THIS superb new work of Dr. Huntington's marks almost a new era in the making of medical books in this country. Its lavish illustration and its most attractive presentation will make it a beautiful addition to the library of every student, while its subject-matter will characterize it as a most important one. It certainly substantiates its author's claim that it is intended to emphasize the value of embryology and comparative anatomy in elucidating the problems of human anatomy.

The intestinal canal is first considered, and attention is called to the fact that it gives origin to two quite different kinds of appendages: those derived by budding from its hypoblastic epithelium, including those organs which, like the salivary glands, liver, pancreas, and lungs, still retain their original connection with it, as well as those, like the thyroid and thymus, which have lost their primitive connection with it; and those which are embryonic appendages, like the omphalo-mesenteric duct and the allantois. After this introduction, Part I. is devoted to the anatomy of the peritoneum and general abdominal cavity. It is shown how the primitive stomach or foregut is formed by the passage between the branchial cavity and the midgut, which is within the area supplied by the vagus; hence the peculiar distribution of this nerve finds its explanation in this derivation of the stomach. The form of the stomach depends upon the influences exerted by the habitual amount of food required by the animal, by its digestible character, by the size and shape of the abdominal cavity which contains it, by structural modifications designed to increase the action of the gastric juice on food, and upon its assumption of special functions, like storage of food for subsequent use or mastication.

The factor which leads to the peculiar arrangement of the intestinal tube within the abdomen is shown to be the rotation which its various portions undergo in order to be suitably disposed within the limits of a closed sac. Failure of rotation and arrest of development lead occasionally to well-marked anomalies.

Part II. deals with the anatomy of the peritoneum in the supracolic compartment of the abdomen. One of its most interesting features is the development of the pancreas, in which a very satisfactory explanation is given of the adult arrangement of the ducts and their variations. He quotes Schirmer, who examined the arrangement of the pancreatic ducts in 105 specimens. In 56 of these the duct of Santorini passed from the main duct into the duodenum above the opening of the common duct; in 19 it was developed, but had no independent opening; in 4 cases it formed the only pancreatic outlet. It is also shown how in certain of the teleosts the pancreas is concealed from observation within the liver, or scattered in the form of small lobules between the layers of the mesentery. The section concerning the liver is also exceedingly interesting. Not much is said about the gall-bladder; in fact, not quite as much as we could wish. The author's statement is, that its existence depends largely on the character of the food and the habitual type of digestion. In those animals whose digestion is carried on nearly continuously the gall-bladder is absent, as well as in several birds. This very variability emphasizes that the gall-bladder is only a modified portion of the hepatic duct system, as is shown by its development.

The comparative anatomy of the hepatic venous circulation is most entertainingly set forth, but it would take up too much space to try to even epitomize it. The relation of the hepatic peritoneum to the lesser sac is amply described and illustrated, while the foramen of Winslow is fully described.

Part III. is devoted to the large and small intestine, the ileocolic junction, and the cæcum. We are reminded that the human cæcum and appendix are in part rudimentary structures, representing a portion of the intestinal tube which has lost its original functional significance, and consequently exhibits wide variations. The reader will be duly impressed by the fact that representatives of all the main types of ileocolic junction are found within a very limited range, as within the confines of a single order, whose various members may differ very widely in habit, and in the kind and quantity of their food.

Part IV. is given over entirely to the morphology of the human cæcum and vermiform appendix. The fact is stated that a few instances of congenital absence of the appendix have been observed, to which the reviewer might add another. This portion of the book will be scrutinized with great interest by anatomists, physicians, and surgeons alike, and will amply repay most careful perusal. Nearly half of the book, with some 150 plates and nearly 300 figures, is devoted to this part of the human body, and the lavishness of illustration may be inferred from this statement.

The author's encyclopedic knowledge of comparative anatomy and the astonishingly great resources of the Columbia University Museum have been utilized to the best advantage in furnishing examples from every part of the animal kingdom. The work exceeds in value and in pictorial richness everything of the kind previously attempted, and speaks most highly for American talent and studiousness. It constitutes a treasury of anatomical lore and will be invaluable to all who are interested in this department of knowledge. The publishers have done their part sumptuously. The pages and the type are large, and the binding beautiful. But one little feature calls for criticism: it is a pity that the time of busy students should be wasted in cutting the pages of a work of such great value. R. P.